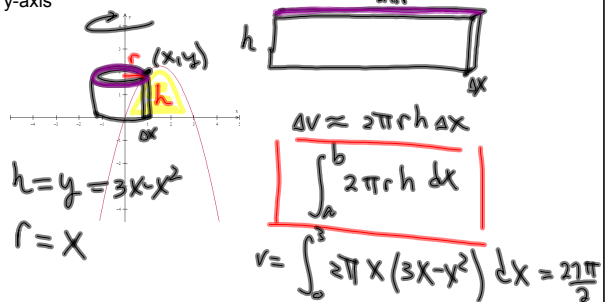


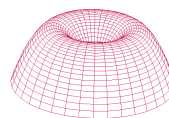
7.3b Volumes

cylindrical shells

Revolve the region bounded by $y=3x-x^2$ and the x-axis about the y-axis

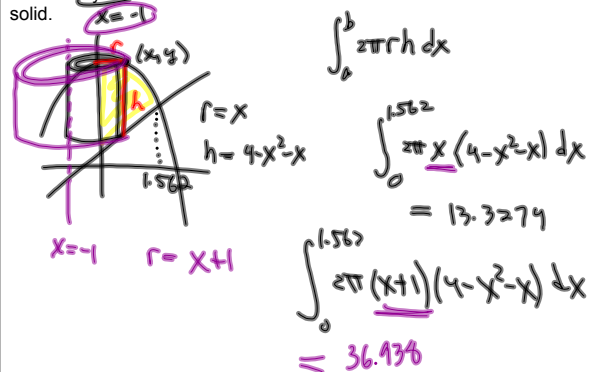


Find the volume using the shell method



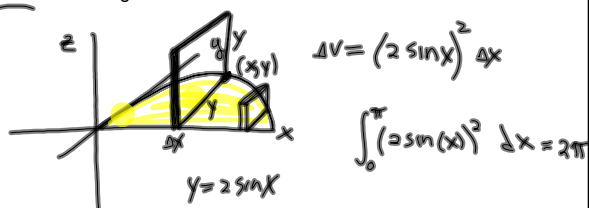
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The region bounded by the curves $y = 4-x^2$, $y=x$ and $x=0$ is revolved about the y-axis to form a solid. Use shells to find the volume of the solid.



Other cross sections

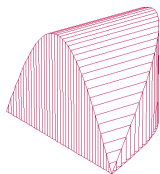
The base of a solid is the region between the x-axis and one arch of the curve $y=2\sin(x)$. Each cross section cut perpendicular to the x-axis is a square whose edge runs from the x-axis to the curve.



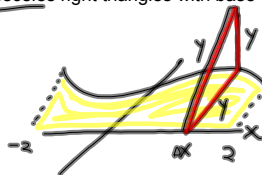
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Find the volume



The base of a solid lies between $y=2+x\cos(x)$ and the x-axis from $x=-2$ to $x=2$. The cross sections perpendicular to the x-axis are isosceles right triangles with base on the xy plane. Find the volume.



$$\Delta v = \frac{1}{2} b h \Delta x$$

$$= \frac{1}{2} y^2 \Delta x$$

$$= \frac{1}{2} (2+x\cos x)^2 \Delta x$$

$$\int_{-2}^2 \frac{1}{2} (2+x\cos x)^2 dx$$

$$8.344$$

Dec 16-9:48 PM

Dec 16-9:49 PM

Jan 5-10:48 AM